

## PATENT

**AMENDMENTS TO THE CLAIMS**

Following is a complete set of claims as amended with this Response. This complete set of claims excludes cancelled claims 1 and 2 and includes amended claim 3.

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) ~~The method of claim 2 further comprising:~~ A method performed by an implantable cardiac stimulation device for analyzing a cardiac signal to generate information representative of the characteristics of R-waves and T-waves found therein, the method comprising:

sensing a cardiac signal;

Identifying pairs of consecutive R-waves and T-waves within the cardiac signal;

measuring values representative of characteristics of pairs of R-waves and T-waves;

generating statistical information representative of the measured values, the statistical information including an average of each measured value;

storing the statistical information generated for the measured values;

sensing additional cardiac signals;

Identifying R-waves in the additional cardiac signals and then applying the stored averaged values to identify expected locations and durations of T-waves within the additional cardiac signals;

blanking portions of an atrial channel of the additional cardiac signals to ignore signals occurring within a period of time corresponding to the expected locations and durations of T-waves;

## PATENT

identifying an additional pair of consecutive R-waves and T-waves within the additional cardiac signals;  
measuring values representative of characteristics of the additional pair of R-waves and T-waves;  
determining an amount of variation between the measured values of the additional pair of R-waves and T-waves and the average of the measured values of previously identified pairs; and  
determining whether the amount of variation exceeds a predetermined threshold of variation and, if not, updating the statistics to reflect the measured values of the additional pair of R-waves and T-waves.

4. (Original) The method of claim 3 wherein the amount of variation includes one or more of variation in an amplitude of the T-waves, variation in an amplitude of the R-waves, variation in a time delay between R-waves and corresponding T-waves, variation in a duration of individual R-waves, and variation in a duration of individual T-waves.

5. (Withdrawn) A system for locating T-waves within a cardiac signal using an implantable cardiac stimulation device, the system comprising:  
means for sensing a cardiac signal;  
means for determining an average time delay between consecutive R-waves and T-waves within a first portion of the cardiac signal;  
means for determining average durations of the T-waves within the first portion of the cardiac signal; and  
means for identifying R-waves in a second portion of the cardiac signal and then applying the average time delay and average T-wave duration to identify expected locations and durations of subsequent T-waves within the second portion of the cardiac signal.

PATENT

6. (Withdrawn) The system of claim 5 further comprising:  
means for blanking portions of an atrial channel of the second portion of the cardiac signal to ignore signals occurring within a period of time corresponding to the expected locations and durations of the T-waves.

7. (Withdrawn) A system for locating T-waves within a cardiac signal using an implantable cardiac stimulation device, the system comprising:  
a sensor operative to sense a cardiac signal;  
a controller operative to determine an average time delay between consecutive R-waves and T-waves within a first portion of the cardiac signal, to locate individual R-waves in a second portion of the cardiac signal, and then, for each R-wave found in the second portion of the cardiac signal, to identify an expected location of a subsequent T-wave using the average time delay.